FEMA 36 / October 1984

Stockpile Report to the Congress

October 1983 — March 1984

FEDERAL EMERGENCY MANAGEMENT AGENCY

Federal Emergency Management Agency

Washington, D.C. 20472

Honorable George Bush
President of the Senate

Honorable Thomas P. O'Neill, Jr.
Speaker of the House of Representatives

Sirs:

The Strategic and Critical Materials Stock Piling Act, as amended, provides that strategic and critical materials be stockpiled in the interest of national defense to preclude a costly and dangerous dependence upon foreign sources of supply in times of national emergency.

The President delegated stockpile policy and planning activities to the Director of the Federal Emergency Management Agency. This Stockpile Report to the Congress for October 1983-March 1984 is submitted in accordance with Section 11 of the Stock Piling Act.

Sincerely,

Louis O. Giuffrida
Director

BEST COPY AVAILABLE

BLANK PAGE

CONTENTS

INTRODUCTION iv

HIGHLIGHTS v

I. STOCKPILE ACQUISITION AND DISPOSAL PROGRAM 1

Acquisitions of Goal Materials 1

Disposals of Excess Inventory 2

II. STOCKPILE BARTER PROGRAM 5

III. FINANCIAL STATUS OF THE NATIONAL DEFENSE STOCKPILE TRANSACTION FUND 7

IV. ADMINISTRATION OF THE STOCKPILE PROGRAM 9

Overview 9

Annual Materials Plan 11

Legislation 12

Property Management 13

Research and Development 14

Ferroalloy Upgrading Program 18

Deliveries 18

Purchase Guidelines 19

APPENDIXES

Appendix 1. National Defense Stockpile Inventory 21

Appendix 2. Calculation Procedure for Family Groupings of Materials ... 27

Appendix 3. The Strategic and Critical Materials Stock Piling Act 29

BEST COPY AVAILABLE

INTRODUCTION

This report is prepared in accordance with Section 11 of the Strategic and Critical Materials Stock Piling Act (P.L. 96-41, 50 U.S.C. 98 *et seq.*). The organization of the report is designed to present the information required to be reported by the Act, which includes:

(1) information with respect to foreign and domestic purchases of materials during the preceding 6-month period;

(2) information with respect to the acquisition and disposal of materials by barter pursuant to Section 6(c) of the Act, during such period;

(3) a statement and explanation of the financial status of the National Defense Stockpile Transaction Fund and the anticipated appropriations to be made from the Fund during the next fiscal year; and

(4) such other pertinent information on the administration of the Stock Piling Act as will enable the Congress to evaluate the effectiveness of the program provided for under the Act and to determine the need for additional legislation.

Consistent with these statutory requirements, this report is divided into four major sections:

I. Stockpile Acquisition and Disposal Program;

II. Stockpile Barter Program;

III. Financial Status of the National Defense Stockpile Transaction Fund; and

IV. Administration of the Stockpile Program.

Appendixes present detailed information on:

— The current inventory of materials in the National Defense Stockpile, with a key to abbreviations used in quantity measures and a description of materials offsets;

— An explanation of calculation procedures for family groupings of stockpile materials, including a listing of conversion factors; and

— A reference copy of the Strategic and Critical Materials Stock Piling Act, as amended.

BEST COPY AVAILABLE

HIGHLIGHTS

I. STOCKPILE ACQUISITION AND DISPOSAL PROGRAM

- Contracts totaling $39.6 million were awarded for the purchase of iridium, tantalum, and titanium.
- Disposals of 15 excess stockpile materials with a total value of $30.0 million were accomplished through sales contracts.

II. STOCKPILE BARTER PROGRAM

- A two-part barter agreement was negotiated with the Government of Jamaica for the acquisition of a total of 1,000,000 long dry tons of bauxite for the National Defense Stockpile. Title to bauxite acquired under the barter is scheduled to be transferred to the Stockpile during Fiscal Years 1988-1990.

III. FINANCIAL STATUS OF THE NATIONAL DEFENSE STOCKPILE TRANSACTION FUND

- Receipts of $440.9 million for the sale of excess stockpile materials have been credited to the National Defense Stockpile Transaction Fund since its inception in 1979.
- Obligations totaling $301.4 million have been made from the Transaction Fund to acquire materials for the Stockpile.
- The balance in the Transaction Fund, as of March 31, 1984, consists of $97.1 million authorized by Congress for purchases of materials for the Stockpile and $42.6 million in currently unappropriated funds.

IV. ADMINISTRATION OF THE STOCKPILE PROGRAM

- The current Stockpile inventory is valued at $10.9 billion, of which $7.1 billion is held against Stockpile goals. Current Stockpile goals would require $17.3 billion of materials. To meet current goals an additional $10.2 billion of materials would be required.
- The Fiscal Year 1985 Annual Materials Plan for restructuring the inventory of the Stockpile was submitted to Congress at the same time as the President's budget. Revisions to the Fiscal Year 1984 Plan were reviewed by Congress.
- Metal matrix composites were explored by the Department of the Interior as substitutes for strategic and critical materials.
- Contracts were awarded to two U.S. companies for the upgrading of chromite and manganese ore with payment made through an exchange of excess materials.

BEST COPY AVAILABLE

I. STOCKPILE ACQUISITION AND DISPOSAL PROGRAM

Acquisitions of Goal Materials

For Fiscal Year 1984, Congress approved $120 million in new obligational authority for the acquisition of materials for the National Defense Stockpile inventory. Carryover authority from Fiscal Year 1983 was $11.0 million and recoveries of prior year obligations are $17.2 million, for a total of $148.2 million available for the purchase of materials during the period starting October 1, 1983.

As presented in Figure 1, contracts for the purchase of three commodities, at a total delivered cost of $39.6 million, were awarded during the report period. In addition, $12.1 million in transportation costs for bauxite acquired by barter was obligated from the National Defense Stockpile Transaction Fund. This bauxite was acquired for transfer to the Stockpile by the Commodity Credit Corporation of the Department of Agriculture by barter of surplus U.S. stocks of nonfat dry milk. Additional details on the barter activities during the period are provided in Section II. The Stockpile also acquired a quantity of jewel bearings under a continuing arrangement with a production facility owned by the U.S. Government.

Figure 1

Acquisitions of Stockpile Materials
October 1, 1983-March 31, 1984

Material	Unit	Quantity	Cost	Origin
Stockpile Transaction Fund				
Iridium	Tr Oz	1,200	$ 402,000	South Africa
Tantalum	LB Ta	249,990	9,912,146	Various
Titanium	ST	4,500	29,260,000	Japan, Domestic
Total Purchase Contract Awards			$39,574,146	
Bauxite	LDT	400,000[a]	12,078,000	Jamaica-Barter
Total Obligations from Transaction Fund			$51,652,146	
Other				
Jewel Bearings	PC	741,736	1,078,000[b]	Domestic
Total Cost of Materials			$52,730,146	

[a] Title to one million long dry tons of bauxite will be transferred to the stockpile during Fiscal Years 1988-1990. GSA has physical custody of 400,000 long dry tons of this material as of this report period.

[b] The cost of the bearings purchased for the Stockpile is funded under a separate program appropriation to the General Services Administration.

Iridium: Two awards for iridium totaling $402,000 in value were made under existing basic ordering agreements. The material was purchased as a metal powder packed in jars. Iridium is used in hardening platinum for alloys suitable for use in electrical apparatus.

Tantalum: Four awards were made for 305,250 pounds of tantalum pentoxide, with 249,990 pounds of contained tantalum metal, valued at $9,912,146. The material is used for electronic capacitors. The tantalum pentoxide to be delivered will consist of a blend of materials originating in Rwanda, Singapore, Zaire, Mozambique, Thailand, Malaysia, Spain, Portugal, Brazil, Australia, China, South Africa, Zimbabwe, Argentina, Zambia, Nigeria, and Namibia.

BEST COPY AVAILABLE

Titanium: Two awards for titanium metal were made to three companies for a total of 4,500 short tons valued at $29,260,000. The awards were made for 2,500 short tons of Type A, 1,000 short tons of Type B, and 1,000 short tons of Type C titanium. Although the types differ in the way they are refined, each is suitable for use in aircraft frames.

Jewel Bearings: The U.S. Government-owned William Langer Jewel Bearing Plant located at Rolla, North Dakota, produces jewel bearings for sale to the National Defense Stockpile and defense contractors. The cost for jewel bearings acquired for the Stockpile is not included in Figure 4 because the bearings are funded under a separate program appropriation, rather than from the National Defense Stockpile Transaction Fund. During the report period, 741,735 jewel bearings were ordered for the Stockpile out of the total production of 1,025,604 bearings. The value of the bearings ordered for the Stockpile is estimated to total $1,078,000.

Solicitations for the purchase of quinidine sulfate, refractory grade bauxite, and vanadium pentoxide were announced in March of 1984. Consequently, the pace of acquisitions should quicken during the second half of the fiscal year.

Disposals of Excess Inventory

Statutory authority existed throughout the period for the disposal of 27 excess materials in the inventory of the Stockpile. Under this authority, sales of 18 excess materials valued at up to $214.4 million were planned for Fiscal Year 1984, market conditions permitting. As detailed in Figure 2, a total of 15 excess commodities valued at $30.0 million were disposed of during the report period. Of the 15 materials sold, tin, tungsten, industrial diamond stones, vegetable tannins, and antimony accounted for 92 percent of total sales proceeds. Total sales receipts declined by $6.2 million from the level of the preceding reporting period, primarily because of reduced disposals of tin. The major disposal transactions, in terms of sales receipts, are described below.

Figure 2

Disposals of Excess National Defense Stockpile Materials
October 1, 1983-March 31, 1984

Material	Unit	Sales During Period		Balance of Disposal Authority (Quantity)
		Value	Quantity	
Antimony	ST	$ 1,494,231	1,000	0
Asbestos, Amosite	ST	—	—	30,024
Asbestos, Crocidolite	ST	—	—	831
Asbestos, Chrysotile	ST	—	—	2,000
Celestite	SDT	—	—	13,415
Diamond, Industrial, Crushing Bort	KT	444,005	191,536	1,354
Diamond, Industrial, Stones	KT	3,892,569	501,506	1,015,948
Kyanite	SDT	—	—	1,187
Iodine	LB	283,000	60,000	1,213,000
Manganese Dioxide, Battery Grade, Natural Ore	SDT	202,500	2,700	77,296
Manganese Ore, Chemical Grade	SDT	240,000	3,000	121,761
Manganese Ore, Metallurgical Grade	SDT	—	—	666,246
Mercuric Oxide	LB	50,510	14,100	695,153
Mercury	FL	554,283	1,800	35,124
Mica Muscovite Block Stained & Lower	LB	—	—	50,000
Mica Muscovite Film, 1st & 2nd Qualities	LB	165,644	49,912	35,027
Mica Muscovite Splittings	LB	314,642	657,517	4,343,544
Mica Phlogopite Splittings	LB	26,694	31,523	707,361
Quartz Crystals	LB	—	—	1,798,324
Rare Earth Oxides	SDT	—	—	487
Talc, Steatite Block & Lump	ST	—	—	886
Talc, Ground	ST	—	—	1,089
Thorium Nitrate	LB	—	—	6,055,529
Tin	LT	12,431,741	935	21,498
Tungsten Ores & Concentrates	LB W	7,373,805	1,704,537	59,116,669
Vegetable Tannin Extract, Chestnut	LT	443,193	649	4,942
Vegetable Tannin Extract, Quebracho	LT	2,070,705	2,983	83,552
Total Sales During Period		$29,987,522		

BEST COPY AVAILABLE

Antimony: In response to especially strong demand, the 1,000 short tons of antimony metal authorized for sale during Fiscal Year 1984 were sold during this reporting period. Under Public Law 97-35, sales of 1,000 tons of excess antimony have been authorized by Congress in each of Fiscal Years 1982-1984. Due to reduced market demand in previous years, this year is the only one of the three years in which the full 1,000 tons were able to be sold.

Industrial Diamond Stones: Sales offerings for industrial diamond stones were fully subscribed. The average unit value received for the diamond stones declined by 30 percent from the value received during the prior reporting period. The decrease resulted from lower quality stones being offered for sale.

Mercury: Sales of mercury declined in comparison to previous reporting periods. However, temporary shortages of mercury and price increases now being experienced in the market point to a renewed interest in this excess stockpile material during the balance of the fiscal year.

Tin: Sales of excess tin from the Stockpile were down by 27 percent from those of the previous reporting period. The world tin market has not yet responded to the economic recovery and sales of tin remain constrained by ample market supplies.

Tungsten Ores and Concentrates: The current level of disposals of tungsten represents a significant increase over that of the previous reporting period. The increased demand is a result of the economic recovery which is now affecting the refractory metals industry. All sectors of tungsten consumption showed increases.

Vegetable Tannin, Quebracho: Although the general tannin market appears to be weak, sales of excess quebracho from the Stockpile have improved over the prior reporting period. The number of U.S. tanneries has been declining slowly and shipments of the principal product, cattle leather, have declined by 25 percent in the last decade.

BEST COPY AVAILABLE

BLANK PAGE

II. STOCKPILE BARTER PROGRAM

Between 1950 and 1967, the U.S. Department of Agriculture (USDA) conducted a barter program under which 60 strategic and critical materials, with a value of more than $1.6 billion, were acquired from more than 50 different countries. These materials were bartered for agricultural commodities owned by the Commodity Credit Corporation (CCC), USDA. The last barter contract under that program was signed in 1967.

During Fiscal Year 1982 the Administration initiated a new barter program. The first transaction involved the purchase of 1,000,000 tons of Jamaican-type bauxite along with the acquisition of 400,000 tons of bauxite through barter of surplus agricultural commodities and 200,000 tons of bauxite through exchange of excess Stockpile materials.

On June 1, 1983, the President directed the CCC and the General Services Administration (GSA) to negotiate with the Government of Jamaica to acquire an additional 1,000,000 tons of bauxite in exchange for U.S. surplus agricultural commodities. Negotiations were conducted with the Bauxite and Alumina Trading Company (BATCO), an agent of the Jamaican Government.

The CCC/BATCO barter agreement was negotiated in two parts. The first part of the agreement was signed in November 1983 and involved 400,000 tons of bauxite for 14,195 tons of CCC-owned dairy products, at a value of $13.6 million. The second part, signed in January 1984, involved 600,000 tons of bauxite for 22,687 tons of CCC-owned dairy products, at a value of $20.4 million. The CCC will hold title to the bauxite until Fiscal Year 1988, at which time GSA will begin a 3-year program to reimburse CCC for the value of the bauxite in exchange for title.

On January 17, 1984, the Emergency Mobilization Preparedness Board was tasked by the President as the senior body to review barter proposals or policies. The U.S. policy on barter will continue to be as stated in the President's National Materials and Minerals Program Plan and Report to Congress:

> The Administration will rely primarily upon purchases on the open market to build the nation's stockpile...We will use exchanges and barter to acquire additional stockpile materials when in the best interests of the country.

The acquisition of strategic and critical materials for the Stockpile by GSA from CCC has been on a case-by-case basis, with the question of reimbursement handled as a part of the normal budget process. In the past, transfers of bartered materials to the Stockpile have been made either without reimbursement by GSA to the CCC or with deferred reimbursement at the value of the bartered agricultural commodities.

BEST COPY AVAILABLE

BLANK PAGE

III. FINANCIAL STATUS OF THE NATIONAL DEFENSE STOCKPILE TRANSACTION FUND

All proceeds from the sale of excess Stockpile materials are placed in the National Defense Stockpile Transaction Fund established under Section 9 of the Strategic and Critical Materials Stock Piling Act. The disposals of excess materials from inception of the Fund in Fiscal Year 1979 through March 31, 1984, have a total value of $396.2 million, as detailed in Figure 3. Receipts from such sales transferred into the Fund have totaled $440.9 million, of which $44.7 million were from sales of excess materials made prior to July 30, 1979, for which the proceeds were received after that date.

Figure 3
Cumulative Disposals of Excess Stockpile Materials
July 30, 1979-March 31, 1984

Material	Unit	Quantity	Value
Antimony	ST	1,884	$ 2,798,830
Asbestos, Chrysotile	ST	1,000	1,493,830
Celestite	SDT	1,000	1,000
Diamond, Industrial, Crushing Bort	KT	2,375,123	5,196,183
Diamond, Industrial, Stones	KT	4,984,051	66,529,264
Kyanite	SDT	300	30,000
Iodine	LB	561,888	3,212,529
Magnesium	ST	362	763,820
Manganese Dioxide, Battery Grade, Natural Ore	SDT	48,819	3,639,628
Manganese Ore, Chemical Grade	SDT	29,391	2,344,376
Mercuric Oxide	LB	15,100	56,020
Mercury	FL	14,876	4,937,907
Mica Muscovite Film, 1st & 2nd Quality	LB	99,826	339,741
Mica Muscovite Splittings	LB	4,205,385	3,386,830
Mica Phlogopite Splittings	LB	1,176,901	1,093,454
Quartz Crystals	LB	401,106	1,564,574
Rare Earth Oxides	SDT	702	533,000
Rubber	LT	646	469,343
Silver	Tr Oz	2,000,000	18,123,325
Talc, Steatite Block & Lump	ST	10	4,000
Thorium Nitrate	LB	26,875	63,599
Tin	LT	13,517	195,483,317
Tungsten Ores & Concentrates	LB W	9,751,388	69,463,543
Vegetable Tannin Extract, Chestnut	LT	3,590	2,335,732
Vegetable Tannin Extract, Quebracho	LT	18,250	11,440,124
Vegetable Tannin Extract, Wattle	LT	1,350	940,749
Total Sales Since July 30, 1979			$396,243,888
Receipts from Sales Prior to July 30, 1979			44,699,494
Total Receipts Since July 30, 1979			$440,943,382

Since inception of the Fund, Congress has approved the use of $398.3 million to purchase stockpile materials, leaving an unappropriated balance of $42.6 million in the Fund, as of March 31, 1984. Of the $398.3 million available, a total of $301.2 million has been obligated through March 31, 1984, to finance the purchase of needed stockpile materials from numerous world sources. The cumulative obligations are shown in Figure 4.

BEST COPY AVAILABLE

Figure 4

Cumulative Obligations from the National Defense Stockpile Transaction Fund
July 30, 1979-March 31, 1984

Material	Unit	Quantity	Cost	Origin
Bauxite, Metallurgical Grade	LDT	3,600,000	$122,350,000	Jamaica
Bauxite, Refractory	LCT	25,327	3,891,000	China
Beryllium	ST	60,000	14,398,000	Domestic
Cobalt	LB	11,700,000	113,794,000	Zaire & Zambia
Iridium	Tr Oz	10,800	3,926,000	South Africa
Quinidine	Av Oz	273,387	932,000	Netherlands
Rubber	LT	398	418,000	Various[a]
Tantalum Minerals	LB Ta	290,154	11,408,000	Various[b]
Tantalum Sponge	ST	4,500	29,279,000	Various[c]
Vanadium	ST V	101	851,000	Domestic
Total Obligations			$301,247,000	

[a] Malaysia, Indonesia, and Thailand.

[b] Brazil, Australia, Germany, Thailand, the Netherlands, Zaire, Mozambique, Nigeria, Malaysia, Canada, Rwanda, Zimbabwe, South Africa, Namibia, Singapore, Spain, Portugal, China, and Argentina.

[c] Japan, United Kingdom, and the United States.

The financial status of the National Defense Stockpile Transaction Fund from its inception is summarized in Figure 5. The unobligated balance of the Transaction Fund, as of March 31, 1984, is $139.7 million. Of this total, $97.1 million has been authorized by Congress to be obligated for the purchase of materials for the Stockpile. An additional $42.6 million from current receipts in the Transaction Fund is available for future purchases of materials when authorized by Congress.

Figure 5

Financial Status of the National Defense Stockpile Transaction Fund
July 30, 1979-March 31, 1984
(Millions of Dollars)

Period	Receipts	Purchase Authority	Purchase Obligations	Balance in Fund (End Date)
August 1, 1979 to September 30, 1979	$ 7.3	$ 0	$ 0	$ 7.3
October 1, 1979 to September 30, 1980	87.0	0	0	94.3
October 1, 1980 to September 30, 1981	99.2	100.0 0.4[a]	78.0	115.5
October 1, 1981 to September 30, 1982	161.0	57.6 0.3[b]	44.0	232.5
October 1, 1982 to September 30, 1983	53.2	120.0	145.0	140.7
October 1, 1983 to March 31, 1984	33.2	120.0	51.6 (17.4)[c]	139.7[d]
Totals	$440.9	$398.3	$301.2	

[a] Consists of approximately $400,000 in authority for the rotation of rubber under Section 6(a)(4) of the Stock Piling Act.

[b] Consists of approximately $300,000 in authority for the rotation of chrysotile asbestos under Section 6(a)(4) of the Stock Piling Act.

[c] The amount of $17,387,000 was deobligated during the reporting period to effect adjustments to previously estimated obligations for transportation costs on the bauxite purchase and the current bauxite barter agreement.

[d] Includes $97.1 million that is authorized to be obligated and $42.6 from current receipts that will require future authorization before obligation.

BEST COPY AVAILABLE

IV. ADMINISTRATION OF THE STOCKPILE PROGRAM

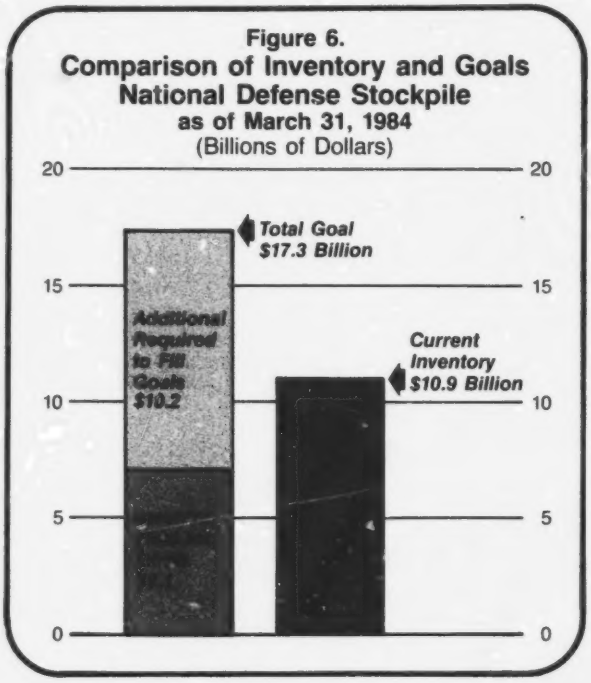
Overview

The Strategic and Critical Materials Stock Piling Act provides that a stock of strategic and critical materials is to be maintained to decrease dependence upon foreign sources of supply in times of national emergency. Executive Order 12155 vests the responsibility for planning the stockpile program in the Director of the Federal Emergency Management Agency (FEMA).

The Stock Piling Act requires that the stockpile inventory be sufficient to cover U.S. needs for not less than 3 years of a national emergency. The President approves stockpile policy guidance assumptions regarding changes in a wartime civil economy, wartime foreign trade patterns, shipping losses, wartime political and economic stability of foreign nations, and foreign and domestic production levels for stockpile materials.

These guidelines are followed in determining the stockpile goals which represent the difference between estimated supply and projected requirements for each strategic material. Periodic review and updating of the goals are required to ensure a current estimate of our Nation's vulnerability to resource shortages during an emergency.

Figure 6.
Comparison of Inventory and Goals
National Defense Stockpile
as of March 31, 1984
(Billions of Dollars)

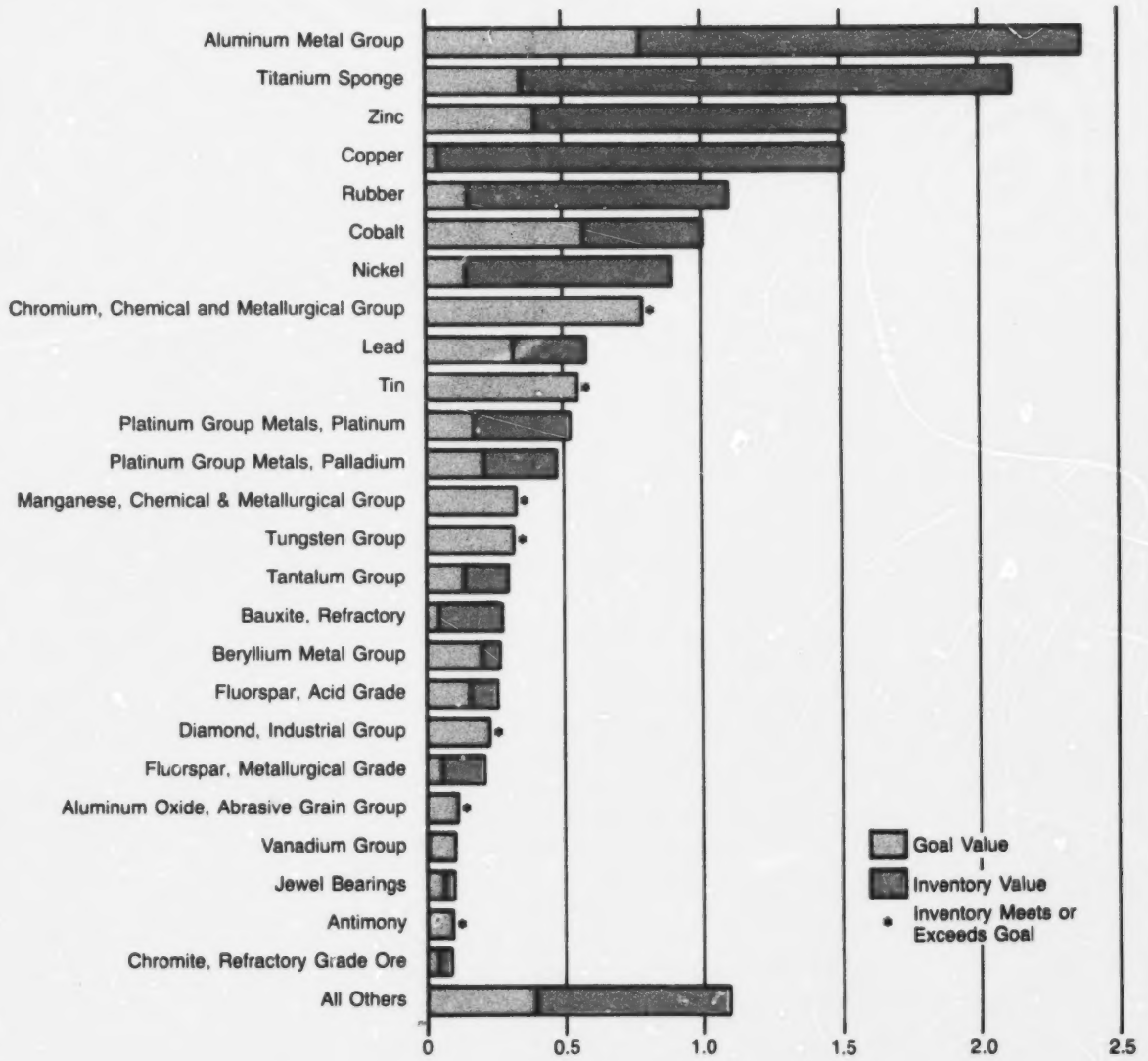


The composition of the stockpile inventory is compared with the goals in Figure 6. Major restructuring of the stockpile inventory is necessary because many of the materials now in the inventory were acquired during the 1950's. To fill the goals at March 31, 1984, prices would require acquisition of additional materials valued at approximately $10.2 billion. The inventory of the Stockpile contains $7.1 billion of the needed materials for a total goal value of $17.3 billion. The total current stockpile inventory is valued at $10.9 billion, including an excess inventory not held for goals valued at $3.8 billion.

BEST COPY AVAILABLE

The values of the 25 largest goals for specific family groups of materials in the National Defense Stockpile are presented in Figure 7. The shaded area within each goal represents the value of the current inventory in the Stockpile of that material that is held against the goal.

Figure 7.
Progress Toward Major Stockpile Goals
as of March 31, 1984
($ Billions)



The difference between the value of the current inventory and the respective goal for those family groups of materials in the Stockpile with the largest shortfalls is illustrated in Figure 8. Similarly, the

BEST COPY AVAILABLE

materials with the largest values of inventory in excess of the respective goal are shown in Figure 9. The values for the goal and inventory for each material and family group are provided in Appendix 1.

Figure 8.
Shortfalls in Inventory of Stockpile Materials
as of March 31, 1984
($ Billions)

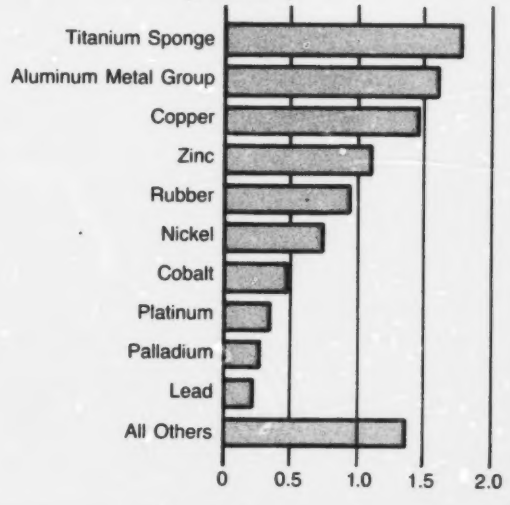
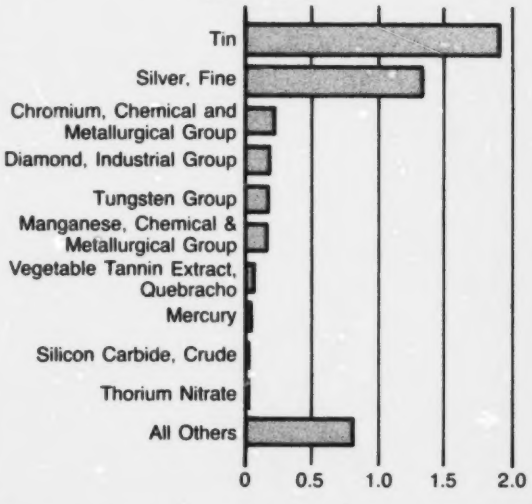


Figure 9.
Excesses in Inventory of Stockpile Materials
as of March 31, 1984
($ Billions)



ANNUAL MATERIALS PLAN

Pursuant to Section 11(b) of the Strategic and Critical Materials Stock Piling Act, the management plan for restructuring the inventory of the stockpile is provided through the development of the Annual Materials Plan (AMP). The AMP is the product of a major interagency effort that develops an annual list of acquisition and disposal actions for stockpile materials. The AMP process is conducted within the framework of the AMP Steering Committee, an advisory group to the Director of the Federal Emergency Management Agency (FEMA). The AMP Steering Committee is chaired by FEMA and includes as designated members the Departments of Agriculture, State, Commerce, Defense, Energy, the Interior, and the Treasury, and the Central Intelligence Agency, the General Services Administration (GSA), the National Security Council (NSC), and Office of Management and Budget (OMB). The AMP is developed in a manner that balances National Defense Stockpile requirements against the need to avoid undue market disruption and to conform with budget limitations.

The AMP process is initiated within the Resources Preparedness Office of FEMA, which provides a list of goals, shortfalls, excesses, and priorities to GSA. After an evaluation of the market outlook, the Market and Technical Services Division of GSA proposes quantities of commodities for acquisition or disposal. These proposals are provided to the two subcommittees described below, which furnish their suggested revisions to the full AMP Steering Committee.

The Strategic Implications Subcommittee is chaired by the Department of Defense and includes, as other designated members, the Central Intelligence Agency, the Department of Energy, and FEMA. The primary function of this subcommittee is to determine if any of the materials proposed for the AMP will be affected by anticipated changes in defense requirements.

The Market and International Political Impacts Subcommittee is co-chaired by the Departments of Commerce and State with the other designated members being the Departments of Defense, the Treasury and the Interior, and FEMA

BEST COPY AVAILABLE

and GSA. Under the leadership of Commerce, this subcommittee evaluates, on a case-by-case basis, the effects that stockpile acquisitions and disposals will have upon domestic and international markets. Significant trends and areas where stockpile activities could lead to a commodity market disruption are examined. This subcommittee develops market impact statements with assistance from the Departments of the Interior (Bureau of Mines) and Commerce (International Trade Administration).

Under the leadership of the Department of State, this subcommittee also determines the international economic and political impacts of stockpile acquisitions and disposals. In particular, the subcommittee determines the impact that stockpile activities could have on earnings of international producers and producer countries, on international trade patterns, and on international agreements.

The results of these analyses are presented to the AMP Steering Committee, which develops a recommended AMP. The AMP is submitted to the Director of FEMA for approval and by the Director to the NSC for review. Simultaneously, an information copy is provided to OMB. Any further revisions are made jointly by the NSC and FEMA. The final AMP is submitted by the Director of FEMA to the House and Senate Armed Services Committees.

The AMP for Fiscal Year 1985 was submitted to the Congress in February 1984. The plan contains proposed acquisitions and disposals of stockpile materials for Fiscal Year 1985 and estimates of those activities for the 4 forward years (Fiscal Years 1986-1989). Information on the specific materials and associated quantities for acquisition and disposal remains classified until invitations to bid are announced.

Two amendments to the Fiscal Year 1984 AMP were proposed to the House and Senate Armed Services Committees during the period covered by this report. These revisions were needed to accommodate changes in the market conditions for several commodities that had occurred since that AMP had been submitted the previous year.

LEGISLATION

During the reporting period, hearings were conducted and legislative actions were taken on the following matters relating to the National Defense Stockpile.

Oversight Hearings

On October 19, 1983, the Senate Armed Services Committee, Subcommittee on Preparedness, held a hearing on the management of the National Defense Stockpile.

On March 8, 1984, the House Armed Services Committee, Subcommitee on Seapower and Strategic and Critical Materials, held a hearing on the Annual Materials Plan for the National Defense Stockpile.

Barter Hearings

Two hearings were held on barter. On October 19-20, 1983, the Subcommittee on Seapower and Strategic and Critical Materials of the House Armed Services Committee held a hearing on H.R. 3544, a bill to amend the Strategic and Critical Materials Stock Piling Act to facilitate the use of barter in the acquisition of strategic and critical materials for the National Defense Stockpile, and for other purposes. The Subcommittee on Preparedness of the Senate Armed Services Committee held a hearing on November 18, 1983, on barter arrangements to enhance the readiness of the National Defense Stockpile.

Bills Introduced

Silver Disposal: On November 17, 1983, S. 2112 was introduced into the Senate. This bill would authorize the disposal of 137,500,000 troy ounces of silver from the Stockpile.

BEST COPY AVAILABLE

Other Bills: On October 6, 1983, H.R. 4109 was introduced into the House of Representatives. This bill would establish within the U.S. Department of Agriculture a corporate body to be known as the Strategic Materials Collateral Corporation. The primary purpose of the Corporation would be to promote the export of surplus agricultural commodities to nations which are experiencing international debt problems, but which have materials required by the United States to meet unfulfilled stockpile goals.

On October 20, 1983, H.R. 4186 was introduced to provide for a National Critical Materials Council for the development of a continuing and comprehensive national materials policy, for programs necessary to carry out that policy (including Federal programs of advanced materials research and technology), for promoting innovation in basic materials industries, and for other purposes.

Other Actions

On January 31, 1984, the House Committee on Science and Technology reported out S. 373, as amended, a bill to provide a comprehensive national policy dealing with national needs and objectives in the Arctic. This bill incorporated as Title II the language of H.R. 4186, the National Critical Materials Act of 1983. The amended bill was referred to the House Committees on Armed Services and Merchant Marine and Fisheries. The Armed Services Committee held a hearing on March 8, 1984, and agreed not to take any action, and on March 16, 1984, discharged the bill. The Merchant Marine and Fisheries Committee reported S. 373, as amended, on March 16, 1984 (H. Rept. 98-593, Part II).

PROPERTY MANAGEMENT

Section 6 of the Strategic and Critical Materials Stock Piling Act, as revised in 1979 by Public Law 96-41, grants authority to the President to manage the National Defense Stockpile. Executive Order 12155 delegates that authority to the Administrator of General Services under the policy guidance of FEMA as provided in Section 3 of the Act. The Federal Property Resources Service of GSA is assigned responsibility for disposal, rotation, acquisition, market analysis, quality assurance, receiving, storage, maintenance, security, environmental control, and shipping of stockpile materials.

A continuing program to assess the quality of various stockpile commodities is coordinated by GSA. During the report period, samples were taken of precious metals in vault storage to enable analysis and evaluation of the results against the latest specifications. These metals included iridium, platinum, and palladium. A sampling plan was developed, and a laboratory was retained under contract to analyze the effects of storage under various controlled conditions upon recently purchased Technically Specified Rubber.

A number of commodity maintenance projects were also undertaken. These projects included planting vegetation and installing an irrigation system over a Jamaican-type bauxite pile to prevent erosion and possible pollution problems, repackaging 5,400 short tons of graphite into good quality containers, and rehabilitating 24,000 drums of titanium sponge. These projects are part of a continuous effort to preserve the quality of stockpile materials, many of which have been held in storage for several decades.

BEST COPY AVAILABLE

RESEARCH AND DEVELOPMENT

Minerals and Materials Research and Information: The development of domestic sources of supply is an alternative to the physical stockpiling of strategic and critical materials. Therefore, additions to or establishment of domestic supply sources make possible a decrease in the stockpile goals. Research of a scientific, technologic, or economic nature to develop domestic production or substitutes for strategic and critical materials is a continuing part of the stockpile program as provided in Section 8 of the Stock Piling Act.

On March 10, 1983, the President proclaimed that the ocean area from a line 3 miles off the coast of the United States and its island territories out to 200 nautical miles was the Exclusive Economic Zone (EEZ) of the United States. This ocean area is nearly double the onshore area of the United States. In his January 25, 1984, State of the Union Address, the President said: "The Department of the Interior will encourage careful, selective exploration and production of our vital resources in (the EEZ) but with strict adherence to environmental laws and with fuller State and public participation." In response to the President's directive, the Secretary of the Interior ordered the appropriate agencies and bureaus of the Department of the Interior, including the Minerals Management Service (MMS), the U.S. Geological Survey (USGS), and the Bureau of Mines to intensify and coordinate their scientific and research efforts toward a viable offshore minerals program. The MMS has initiated action in cooperation with the State of Oregon for leasing polymetallic sulphides in the Gorda Ridge area and with the State of Hawaii for leasing cobalt-enriched manganese crusts off the Hawaiian Archipelago. Additionally, geologic reconnaissance has indicated areas favorable for a variety of minerals, including oil and gas, phosphorites, copper, lead, zinc, cobalt, nickel, gold, silver, platinum, titanium minerals, cadmium, and manganese.

In cooperation with involved State agencies, the USGS began long-range multidisciplinary studies, utilizing geology, geophysics, geochemistry, and hydrogeology to assess the unexposed mineral resource potential in the basement rocks and in the overlying sedimentary rocks in two regions of the United States:

1) the midcontinent area, embracing all or parts of 12 States, in which a thick pile of sedimentary rocks overlies Precambrian basement rocks; and

2) Mesozoic basins of the Eastern United States, embracing an eight-State area in which Mesozoic sedimentary and basaltic igneous rocks fill deep basins in Pre-Mesozoic metamorphic terrains.

Scientists from the USGS and the Bureau of Mines represent the United States in the International Strategic Minerals Inventory (ISMI), a cooperative data-collection effort of earth-science and mineral-resource agencies in Canada, the Federal Republic of Germany, the Republic of South Africa, and Australia. Participating countries are contributing information to a global inventory for selected strategic mineral resources. A summary report of major world manganese resources has been published (U.S. Geological Survey Circular 930-A, 1984). Similar reports are being prepared using the completed chromium, nickel, and phosphate data sets. Most manganese production and resources are confined to only 29 deposits or districts, a relatively small number for a major commodity. The ISMI manganese report contains maps that show the location and expected production status of these deposits, as well as tables of selected geologic, mineral-resource, and production information. An analysis of production by geographic region indicates that the present principal producers (the Soviet Union and South Africa) will continue to dominate world manganese production for the foreseeable future. Cobalt, graphite, platinum-group elements, titanium, tungsten, and vanadium will be the subjects of future ISMI data compilation and reports.

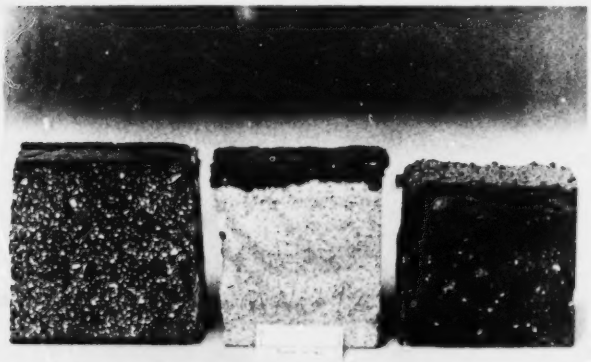
During the report period, Bureau of Mines prepared an updated edition of its 1986 publication "Mineral Industries of Africa." The new edition discusses, for each African country, mineral policy, mineral industry structure and trade with the United States, and includes a mineral location map for each country.

The Bureau also published a booklet titled "Primary Aluminum Plants—Worldwide" which

BEST COPY AVAILABLE

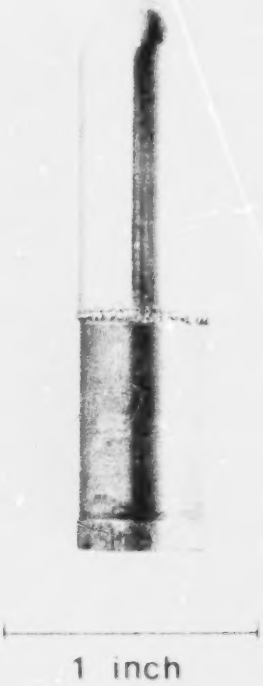
provides data on the world's primary aluminum capacity, on a plant-by-plant basis. The report was compiled from a variety of domestic and foreign sources, and covers location, ownership, and sources of energy and raw materials for the world's aluminum plants, as well as capacity data for 1980 through 1987.

Research on Substitution: Imports of calcined refractory-grade bauxite in 1983 substantially exceeded 100,000 metric tons, most of which was consumed domestically by the refractories industry to produce high-alumina lining materials for primary metal processing furnaces. The Bureau of Mines has conducted research to improve high-temperature properties of low-alumina refractories made from domestic raw materials, as a substitute for high-alumina refractories that require imported refractory-grade bauxite. This research has shown that impregnation of low-alumina refractories with solutions containing salts of metal chlorides, sulfates, and nitrates fired at high temperature produces refractories with improved high-temperature properties, in particular, resistance to slag erosion (see photo).



Bureau of Mines research has developed a unique procedure of impregnating refractories for high-temperature furnaces with salt solutions making it possible to use materials with alumina content much lower than those prepared from imported refractory-grade bauxite. At the center a 70 percent alumina refractory brick resists erosion as well as a 90 percent alumina refractory at the left, and even better than an 80 percent alumina brick shown at the right.

Bureau of Mines research on electrolysis and heat-treatment has been conducted for depositing multicomponent alloy coatings from a slurry of metal powders and aqueous electrolytes. The emphasis has been on stainless steel coatings on common steels for corrosion protection. Iron-nickel-chromium coatings have been successfully made by occluding 2-micron chromium powder into an iron-nickel electrodeposited matrix. This was followed by a heat-treatment period to diffuse the metal powder into the electrodeposited coating, producing a stainless steel coating. Still under development, this technology holds promise to reduce chromium requirements in many applications as well as for other important metals used to impart corrosion and oxidation resistance to alloys (see photo).



In Bureau of Mines laboratories stainless steel coatings are electrodeposited on common steels to provide corrosion resistance with a minimum use of chromium and nickel.

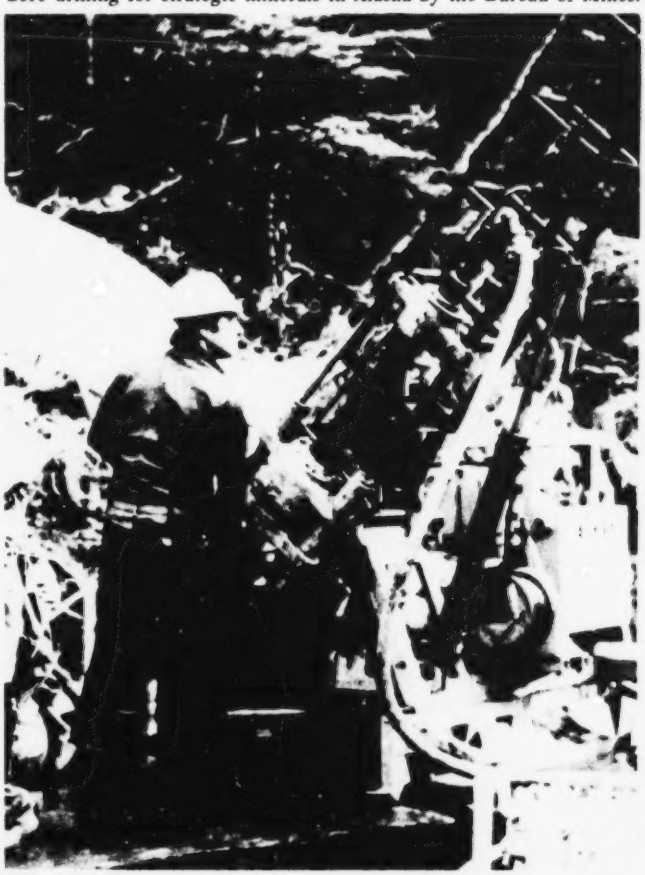
Domestic Sources of Supply: Late in the 1983 field season, Bureau of Mines engineers found base metal sulfide mineralization northeast of Glacier Bay National Park in Alaska. The mineralization is significant since it appears to be similar to the nearby 400 million ton Windy Craggy massive sulfide deposit in Canada which contains relatively high grade copper, cobalt, and gold. The Bureau of Mines is planning additional work coperatively with the State of Alaska's Department of Natural Resources Division of Geological and Geophysical Surveys to evaluate the occurrences.

The Bureau of Mines provided minerals information and mining data for use by the respective land management agency and by Congress in making land-use decisions on State wilderness bills proposed for Arizona, Arkansas, Colorado, Nevada, New Hampshire, North Carolina, Pennsylvania, South Carolina, Tennessee, Texas, Utah, and Wisconsin. In the previous reporting period, similar information was made available on California, Idaho, Montana, and Oregon. The Bureau, jointly with the USGS, also provided briefings on minerals in proposed wilderness areas to the Forest Service, USDA, OMB, Bureau of Land Management of the Department of the Interior, and appropriate House and Senate staff, and furnished technical witnesses at committee hearings on wilderness bills.

The Bureau, jointly with the USGS, summarized (in Professional Paper 1300) congressionally mandated mineral investigations for mineral potential of withdrawn lands managed by the Forest Service. In addition to their current efforts on Bureau of Land Management lands, the Bureau and USGS have been requested to conduct studies on 6.7 million acres of land managed by the Forest Service as a result of the Environmental Impact Statement on the Roadless Area Review and Evaluation (RARE II) program. During the reporting period, the Bureau placed in open file 10 reports covering nearly 616,000 acres of wilderness study areas in 5 States.

The Bureau published a report of its efforts to evaluate the mineral resources of the Kantishna Hills/Dunkle mine area in the newly established Denali National Park and Preserves in Alaska. Results of the 3-month field season indicate the Kantishna Hills district contains 43 million cubic yards of minable stream and terrace gravels containing 688,000 ounces of gold, numerous precious metals lode deposits containing up to 2.8 ounces of gold and 65.3 ounces of silver per ton of ore, and antimony-bearing vein deposits scattered throughout the southern and eastern parts of the study area. It is estimated that more than 200 million cubic yards of terrace and alluvial fan gravels, which have not been evaluated, could contain significant reserves amenable to large-scale mining. At least four high-grade gold-silver vein deposits occur in the Dunkle mine study area as well as reserves of good quality coal. Several potential copper/molybdenum and copper/precious metal porphyrytype targets have been identified but have not been adequately tested (see photo).

Core drilling for strategic minerals in Alaska by the Bureau of Mines.

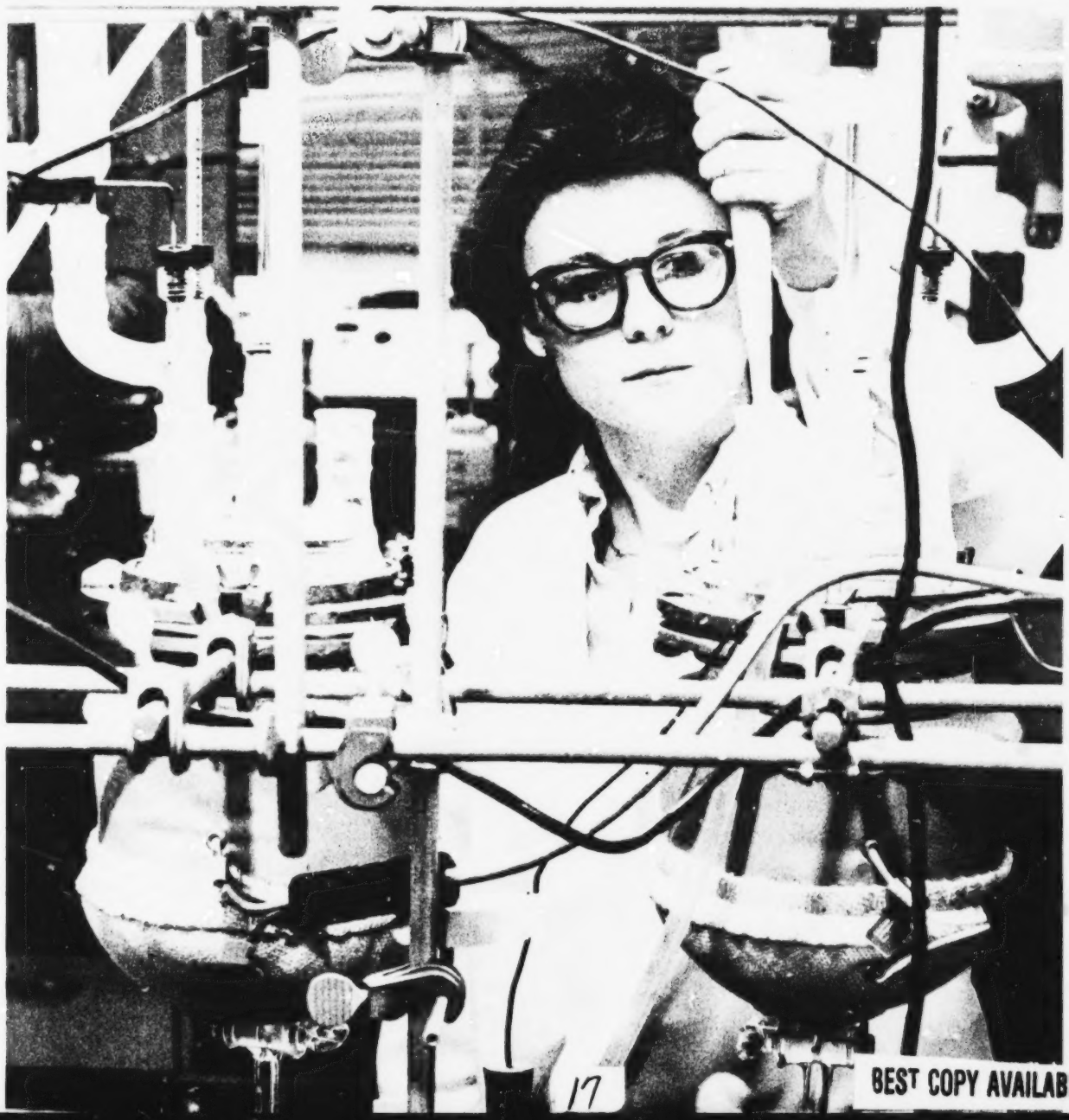


BEST COPY AVAILABLE

Scrap Recovery: Domestic zinc ores often contain cobalt and nickel minerals in small quantities that eventually end up in concentrates that are the feedstock for the electrolytic process used to produce high-purity zinc. These metals are considered impurities because they upset the electrolytic process. Consequently, the cobalt and nickel are removed from the processing solutions by adding arsenic and antimony oxides that precipitate cobalt and nickel as arsenides and antimonides.

Although these precipitates are chemically stable, they still pose environmental control and disposal problems. Generally, they are mixed with other processing residues and exported for processing or disposal; a resource that represents more than 200,000 pounds of cobalt and 120,000 pounds of nickel annually. The Bureau of Mines is conducting research on organic chemicals that can remove the cobalt and nickel from the zinc leach solutions in a form in which they can be recovered as pure metals (see photo).

Laboratory apparatus used for Bureau of Mines research on an experimental process for recovering cobalt and nickel from zinc processing solutions.



BEST COPY AVAILABLE

FERROALLOY UPGRADING PROGRAM

In November of 1982, the President directed GSA to upgrade chromite and manganese ores to high-carbon ferrochromium and high-carbon ferromanganese. The primary impetus for this directive was to sustain a U.S. ferroalloy furnace and processing capability vital to national security. This domestic production capability has been threatened in recent years by increased imports of low-priced ferroalloys from foreign sources which cannot be relied upon in time of national emergency. Another benefit of the upgrading program will be to lessen the amount of stockpile ore needing conversion into ferroalloy form during times of an emergency.

On December 30, 1983, contracts were awarded to Macalloy Corporation of Charleston, South Carolina, and Elkem Metals Company of Pittsburgh, Pennsylvania, for upgrading chromite and manganese ores, respectively. The total direct cost of the two contracts is estimated to be $34 million. Payment to the contractors will be made using excess stockpile materials currently authorized for disposal.

During Fiscal Year 1984, this project will involve outloading and sampling approximately 122,000 short tons of chromite and 48,000 short tons of manganese ore which are to be shipped to the contractors; and sampling, testing, and stockpiling of approximately 50,000 short tons of ferrochromium and 24,000 short tons of ferromanganese to be received in return. As of March 31, 1984, 34,290 short dry tons of chromite and 10,532 short dry tons of manganese ore have been outloaded from stockpile locations, and 1,968 short tons of high-carbon ferrochrome have been accepted into the Stockpile.

DELIVERIES

The following seven commodities delivered to the Government by contractors during the reporting period were inspected and sampled to determine contract compliance.

Bauxite: More than 912,000 long dry tons of metallurgical grade Jamaican-type bauxite were formally accepted. The material, acquired from the Jamaican government, is being stockpiled in Gramercy, Louisiana, and Gregory, Texas, under a previous purchase contract and barter agreement.

Beryllium: Six billets, totalling 15,078 pounds, of hot-pressed beryllium powder block passed all required tests and were accepted by the Government. This material was provided by Brush-Wellman of Elmore, Ohio.

Cobalt: Three cobalt lots totaling 198,360 pounds were accepted. This material was provided by the state marketing company of Zaire, Societe Zairoise de Commercialisation des Minerals (SOZACOM), under a commitment in a previous contract with GSA.

Iridium: A total of 2,400 troy ounces of iridium has been tested for quality and accepted from Engelhard Industries and Amax Copper, Inc., both of New Jersey.

Quinidine: Henley and Company of New York supplied 19,198 ounces of quinidine sulfate from France. The material has been weighed and samples have been taken for laboratory analyses.

Titanium: Phillip Brothers of New York supplied 859,092 pounds of titanium sponge from Japan, which have been sampled. Based on laboratory results, 679,272 pounds of that quantity were provisionally accepted.

Vanadium Pentoxide: Approximately 150,000 pounds of vanadium pentoxide, representing three of ten lots, have been provisionally accepted based on weight and analysis results. The contract was awarded to the Gulf Chemical and Pharmaceutical Co., Freeport, Texas, a subsidiary of the Associated Metals and Minerals Corporation.

BEST COPY AVAILABLE

PURCHASE GUIDELINES

Purchase specifications are developed by the Interagency Committee for Stockpile Purchase Specifications. This Committee is chaired by the Department of Commerce with members representing the Departments of Defense, the Interior, Agriculture, State, GSA, and FEMA. The draft specifications are approved by FEMA and published by the Department of Commerce (DOC).

During the reporting period, new purchase specifications for copper, lead, zinc, and columbium source materials and a draft purchase specification for aluminum were completed. In addition, DOC had started developing specifications for chromium metal and parthenium (guayule) rubber.

Since 1976, the Committee has developed and reviewed Stockpile Purchase Specifications for 56 materials. (See Figure 10.)

Figure 10

NATIONAL DEFENSE STOCKPILE PURCHASE SPECIFICATIONS

Number	Material	Date Issued
P-90-R3	Aluminum Oxide Abrasive, Fused, Crude	November 13, 1980
P-2a-R4	Antimony Metal	June 10, 1980
P-2b-R2	Antimony Sulphide Ore and Concentrates - Chemical Grade	June 10, 1980
P-3-R6	Asbestos - Chrysotile	February 26, 1982
P-90a	Bauxite - Abrasive Grade	June 22, 1981
P-5b-R1	Bauxite, Metal Grade, Jamaican Type	February 9, 1983
P-5c-R5	Bauxite, Refractory Grade	June 22, 1982
P-6-R5	Beryl Concentrates	November 13, 1980
P-94-R3	Beryllium - Copper Master Alloy	November 13, 1980
P-110a-R	Beryllium Metal, Hot-Pressed Powder Billets	March 25, 1983
P-110-R2	Beryllium Metal, Vacuum Cast Ingot	June 25, 1981
P-7-R4	Bismuth	June 10, 1980
P-8-R2	Cadmium	March 7, 1979
P-9-R3	Castor Oil	June 22, 1982
P-86-R2	Chestnut Tannin Extract	February 1, 1980
P-65-R4	Chromite - Chemical Use	February 1, 1980
P-11a-R6	Ferrochromium - Low Carbon	June 9, 1976
P-11b-R4	Ferrochromium - High Carbon	July 25, 1983
P-13-R5	Cobalt	June 28, 1983
P-113-R2	Columbium Source Materials	January 27, 1984
P-16a-R3	Copper	March 16, 1984
P-17b-R6	Cordage Fibers - Sisal	October 19, 1977
P-18-R2	Corundum - Massive Micro-Crystalline Ore	January 23, 1977
P-69a-R2	Fluorspar - Acid Grade	January 2, 1976
P-69b-R2	Fluorspar - Metallurgical Grade	January 2, 1976
P-40-R	Iridium	June 25, 1981
P-25-R2	Jewel Bearings	March 27, 1981
P-28-R3	Lead	March 16, 1984
P-98-R3	Manganese Metal - Electrolytic	June 9, 1976
P-30a-R4	Ferromanganese (Standard High Carbon)	July 25, 1983
P-37a-R	Morphine Sulphate	March 7, 1979
P-36-R4	Nickel - High Purity	January 26, 1983
P-37-R3	Opium	March 7, 1979
P-99-R6	Palladium	June 25, 1981
P-41-R5	Platinum	June 25, 1981
P-42-R2	Pyrethrum Extract	February 1, 1980
P-44-R3	Quebracho Tannin Extract	February 1, 1980
P-45-R4	Quinidine Sulfate	January 26, 1983
P-46-R3	Quinine Sulfate	November 13, 1980
P-48a-R5	Rubber - Crude Natural	October 19, 1977
P-48b-R	Rubber - Technically Specified Rubber (Hevea)	June 2, 1982
P-48c	Rubber - Parthenium (Guayule)	February 1, 1980
P-49-R6	Rutile	November 3, 1981
P-25a	Sapphire and Ruby Components, Synthetic	March 27, 1981
P-95-R2	Silicon Carbide - Crude	January 12, 1981
P-112-R2	Silver	June 10, 1980
P-53-R2	Talc (Steatite) Block	June 10, 1980
P-53a-R2	Talc (Steatite) Lump	June 10, 1980
P-106-R3	Tantalum Carbide Powder	February 1, 1980
P-113a	Tantalum Source Materials	August 3, 1981
P-55-R3	Tin	June 10, 1980
P-97-R7	Titanium Metal Sponge	June 2, 1982
P-58-R2	Vanadium Pentoxide	June 25, 1981
P-100-R1	Ferrovanadium	October 19, 1977
P-87-R2	Wattle Tannin Extract	February 1, 1980
P-59-R1	Zinc	March 16, 1984

BEST COPY AVAILABLE

BLANK PAGE

APPENDIX 1

NATIONAL DEFENSE STOCKPILE INVENTORY

The data on the National Defense Stockpile inventory given in Table 2 excludes quantities that were sold but not shipped from depots to the purchasers. In the Statistical Supplement (available from the General Services Administration), the inventory is listed as "Total Inventory in Storage" with a separate line for "Unshipped Sales."

The inventory quantities given in Table 2 combine stockpile and nonstockpile grade materials. Separate quantities for each of these grades can be found in the Statistical Supplement. Nonstockpile grade material may vary only slightly from the stockpile grade and in some cases is temporarily credited toward goals.

For some materials where a goal deficit occurs, the excess of another form of the material is held to offset the shortage as indicated in the footnotes at the end of Table 2. The term "offset" means the allocation of an equivalent amount of one form of a material as a credit toward the goal for another form.

Materials are grouped by "families," and a summary line for each basic family group is included. The materials have been grouped in each family according to their status as raw materials, semifinished products, or finished products that contain the same common ingredient. The values shown in the summary line for each family group are expressed in the basic unit common to all members of the group. In all but three cases, this basic unit is the metal equivalent for each form. There is a different conversion factor for each form because each requires different technology and incurs different losses for conversion. The factors used for calculating these equivalent amounts and the calculation procedure are provided in Appendix 2.

Market values are current prices at which comparable materials are being traded. In the absence of current trading, the values are estimates. They are not necessarily the amount that would be realized if the material were sold. A key to abbreviations used in Table 2 and elsewhere in this report is provided in Table 1.

Abbreviations

AMA LB	- Anhydrous Morphine Alkaloid (Pounds)
Av Oz	- Avoirdupois Ounce
FL	- Flask (76-Pound)
KT	- Carat
LB	- Pound
LB Cb	- Pounds of Contained Columbium
LB Co	- Pounds of Contained Cobalt
LB Mo	- Pounds of Contained Molybdenum
LB Ta	- Pounds of Contained Tantalum
LB W	- Pounds of Contained Tungsten
LCT	- Long Calcined Ton
LDT	- Long Dry Ton
LT	- Long Ton
MT	- Metric Ton
PC	- Piece
SDT	- Short Dry Ton
ST	- Short Ton
ST Ni+Co	- Short Tons of Contained Nickel Plus Cobalt
ST V	- Short Tons of Contained Vanadium
Tr Oz	- Troy Ounces

BEST COPY AVAILABLE

BLANK PAGE

BLANK PAGE

BLANK PAGE

BEST COPY AVAILABLE

Table 2

NATIONAL DEFENSE STOCKPILE INVENTORY OF STRATEGIC AND CRITICAL MATERIALS

March 31, 1984

Material	Unit	Goal	Inventory	Value of Inventory (Millions $)	Quantity After Crediting Offset: Excess	Quantity After Crediting Offset: Deficit
1. Aluminum Metal Group	ST Al Metal	7,150,000	4,043,784	$ 782.7		3,102,858
Alumina	ST	0	0	-		-
Aluminum	ST	700,000	2,080	3.4		697,920
Bauxite, Metal Grade, Jamaica Type	LDT	21,000,000	11,454,413 a	515.4		9,545,587
Bauxite, Metal Grade, Surinam Type	LDT	6,100,000	5,299,597	263.9		800,403
2. Aluminum Oxide, Abrasive Grain Group	ST Ab Grain	638,000	259,124	128.6		378,876
Aluminum Oxide, Abrasive Grain	ST	0	50,904	63.6	b	
Aluminum Oxide, Fused, Crude	ST	0	249,867	65.0	b	
Bauxite, Abrasive Grade	LCT	1,000,000	0	-		b
3. Antimony	ST	36,000	38,841	106.0	2,841	
4. Asbestos, Amosite	ST	17,000	38,495	27.0	21,495	
5. Asbestos, Chrysotile	ST	3,000	10,751	19.6	7,751	
6. Bauxite, Refractory	LCT	1,400,000	199,926	40.4		1,200,074
7. Beryllium Metal Group	ST Be Metal	1,220	1,061	204.2		159
Beryl Ore (11% BeO)	ST	18,000	17,987	21.8		13
Beryllium Copper Master Alloy	ST	7,900	7,387	93.5		513
Beryllium Metal	ST	400	229	88.9		171
8. Bismuth	LB	2,200,000	2,081,298	5.0		118,702
9. Cadmium	LB	11,700,000	6,326,809	10.4		5,371,191
10. Chromium, Chemical and Metallurgical Group	ST Cr Metal	1,353,000	1,315,823	1,006.8		28,077
Chromite, Chemical Grade Ore	SDT	675,000	242,414	13.6		c
Chromite, Metallurgical Grade Ore	SDT	3,200,000	2,456,225	237.0		c
Chromium, Ferro, High Carbon	ST	185,000	402,696	266.7	c	
Chromium, Ferro, Low Carbon	ST	75,000	318,892	418.0	c	
Chromium, Ferro, Silicon	ST	90,000	58,357	43.3		c
Chromium, Metal	ST	20,000	3,763	28.2		c
11. Chromite, Refractory Grade Ore	SDT	850,000	391,414	42.6		458,586

Table 2 (continued)

Material	Unit	Goal	Inventory	Value of Inventory (Millions $)	Quantity After Crediting Offset: Excess	Quantity After Crediting Offset: Deficit
12. Cobalt	LB Co	85,400,000	46,193,915	$ 577.4		39,206,085
13. Columbium Group	LB Cb Metal	4,850,000	2,532,419	23.0		2,317,581
Columbium Carbide Powder	LB Cb	100,000	21,372	.6		78,628
Columbium Concentrates	LB Cb	5,600,000	1,806,218	15.5		d
Columbium, Ferro	LB Cb	0	930,911	5.3	d	
Columbium, Metal	LB Cb	0	44,851	1.6	d	
14. Copper	ST	1,000,000	29,048	44.0		970,952
15. Cordage Fibers, Abaca	LB	155,000,000	0	-		155,000,000
16. Cordage Fibers, Sisal	LB	60,000,000	0	-		60,000,000
17. Diamond, Industrial Group	KT	29,700,000	37,048,492	411.4	7,348,492	
Diamond Dies, Small	PC	60,000	25,473	1.1		34,527
Diamond, Industrial, Crushing Bort	KT	22,000,000	22,001,353	38.5	1,353	
Diamond, Industrial, Stones	KT	7,700,000	15,034,403	371.8	7,334,403	
18. Fluorspar, Acid Grade	SDT	1,400,000	895,983	161.3		504,017
19. Fluorspar, Metallurgical Grade	SDT	1,700,000	411,738	51.5		1,288,262
20. Graphite, Natural, Ceylon, Amorphous Lump	ST	6,300	5,498	10.7		802
21. Graphite, Natural, Malagasy, Crystalline	ST	20,000	17,880	53.6		2,120
22. Graphite, Natural, Other Than Ceylon & Malagasy	ST	2,800	2,804	2.0	4	
23. Iodine	LB	5,800,000	7,450,930	51.3	1,650,930	
24. Jewel Bearings	PC	120,000,000	71,951,970	61.7		48,048,030
25. Lead	ST	1,100,000	601,025	318.5		498,975
26. Manganese, Dioxide, Battery Grade Group	SDT	87,000	215,505	20.4	128,505	
Manganese, Battery Grade, Natural Ore	SDT	62,000	212,494	16.2	e	
Manganese, Battery Grade, Synthetic Dioxide	SDT	25,000	3,011	4.2		e

BEST COPY AVAILABLE

BEST COPY AVAILABLE

Table 2 (continued)

Material	Unit	Goal	Inventory	Value of Inventory (Millions $)	Quantity After Crediting Offset: Excess	Quantity After Crediting Offset: Deficit
27. Manganese, Chemical & Metallurgical Group	ST Mn Metal	1,500,000	1,954,922	$ 489.5	470,395	
Manganese Ore, Chemical Grade	SDT	170,000	191,653	15.7	21,653	
Manganese Ore, Metallurgical Grade	SDT	2,700,000	3,360,168	159.9		f
Manganese, Ferro, High Carbon	ST	439,000	599,978	262.5	f	
Manganese, Ferro, Low Carbon	ST	0	0	-	-	
Manganese, Ferro, Medium Carbon	ST	0	28,920	20.8	f	
Manganese, Ferro, Silicon	ST	0	23,574	9.9	f	
Manganese Metal, Electrolytic	ST	0	14,172	20.7	f	
28. Mercury	FL	10,500	176,515	53.8	166,015	
29. Mica Muscovite Block, Stained & Better	LB	6,200,000	5,212,445	27.8		987,555
30. Mica Muscovite Film, 1st & 2nd Qualities	LB	90,000	1,179,537	13.8	1,089,537	
31. Mica Muscovite Splittings	LB	12,630,000	17,388,788	26.1	4,758,788	
32. Mica Phlogopite Block	LB	210,000	130,745	.7		79,255
33. Mica Phlogopite Splittings	LB	930,000	1,641,699	3.3	711,699	
34. Molybdenum Group	LB Mo	0	0	-	-	
Molybdenum Disulphide	LB Mo	0	0	-	-	
Molybdenum, Ferro	LB Mo	0	0	-	-	
35. Morphine Sulphate and Related Analgesics	AMA LB	130,000	71,303	26.2		58,697
Crude	AMA LB	0	31,795	4.9	g	
Refined	AMA LB	130,000	39,508	21.3		g
36. Natural Insulation Fibers	LB	1,500,000	0	-		1,500,000
37. Nickel	ST Ni+Co	200,000	32,209	143.7		167,791
38. Platinum Group Metals, Iridium	Tr Oz	98,000	26,590	9.5		71,410
39. Platinum Group Metals, Palladium	Tr Oz	3,000,000	1,255,008	201.4		1,744,992
40. Platinum Group Metals, Platinum	Tr Oz	1,310,000	452,642	179.9		857,358
41. Pyrethrum	LB	500,000	0	-		500,000
42. Quartz Crystals	LB	600,000	2,060,936	12.4	1,460,936	
43. Quinidine	Av Oz	10,100,000	1,874,504	6.7		8,225,496

24

Table 2 (continued)

Material	Unit	Goal	Inventory	Value of Inventory (Millions $)	Quantity After Crediting Offset: Excess	Quantity After Crediting Offset: Deficit
44. Quinine	Av Oz	4,500,000	3,246,164	$ 8.2		1,253,836
45. Ricinoleic/Sebacic Acid Products	LB	22,000,000	12,524,242	9.2		h
46. Rubber	MT	864,000	120,882	154.4		743,118
47. Rutile	SDT	106,000	39,186	12.7		66,814
48. Sapphire and Ruby	KT	0	16,305,502	.2	16,305,502	
49. Silicon Carbide, Crude	ST	29,000	80,550	36.2	51,550	
50. Silver, Fine	Tr Oz	0	137,505,946	1,326.8	137,505,946	
51. Talc, Steatite Block & Lump	ST	28	1,081	.4	1,053	
52. Tantalum Group	LB Ta Metal	7,160,000	2,426,387	142.0		4,733,613
Tantalum, Carbide Powder	LB Ta	0	28,688	4.7	i	
Tantalum Metal	LB Ta	0	201,133	44.2	i	
Tantalum Minerals	LB Ta	8,400,000	2,584,195	93.1		i
53. Thorium Nitrate	LB	600,000	7,131,812	19.6	6,531,812	
54. Tin	MT	42,700	190,354	2,450.8	147,654	
55. Titanium Sponge	ST	195,000	32,331	353.4		162,669
56. Tungsten Group	LB W Metal	50,666,000	77,472,074	496.1	26,806,074	
Tungsten Carbide Powder	LB W	2,000,000	2,032,942	23.3	j	
Tungsten, Ferro	LB W	0	2,025,361	24.8	j	
Tungsten, Metal Powder	LB W	1,600,000	1,898,831	24.5	j	
Tungsten Ores & Concentrates	LB W	55,450,000	84,036,358	423.5	j	
57. Vanadium Group	ST V Metal	8,700	541	6.5		8,159
Vanadium, Ferro	ST V	1,000	0	-		1,000
Vanadium Pentoxide	ST V	7,700	541	6.5		7,159
58. Vegetable Tannin Extract, Chestnut	LT	5,000	14,082	9.5	9,082	
59. Vegetable Tannin Extract, Quebracho	LT	28,000	131,250	89.8	103,250	
60. Vegetable Tannin Extract, Wattle	LT	15,000	15,001	10.6	1	
61. Zinc	ST	1,425,000	378,316	403.9		1,046,684

BEST COPY AVAILABLE

25

BEST COPY AVAILABLE

Table 2 (continued)

Footnotes

a. **Bauxite, Metal Grade, Jamaica Type:** Includes 400,000 LDT in the physical custody of GSA, title to which will be transferred to the Stockpile during Fiscal Years 1988-1990.

b. **Aluminum Oxide, Fused Crude:** Hold 50,904 ST of aluminum oxide abrasive grain and 249,867 ST of aluminum oxide fused crude as offset against 379,253 LCT of bauxite abrasive grade.

c. **Chromium Group, Chemical and Metallurgical Grades:** Metallurgical grade ore goal is 3,200,000 SDT or specification grade; inventory 1,956,824 SDT; shortfall 1,243,176 SDT.

(1) Hold 217,695 ST of Fe Cr high carbon against shortfall of 544,238 SDT of specification grade ore.
(2) Hold 243,892 ST of Fe Cr low carbon against 609,730 SDT of specification grade ore.
(3) Hold 89,208 SDT of nonspecification grade metallurgical ore against the balance of the 89,208 SDT specification grade ore shortfall.
(4) Hold 47,466 SDT of nonspecification grade metallurgical ore against a shortfall of 31,644 ST of Fe Cr Si.
(5) Hold 56,830 SDT of nonspecification grade metallurgical ore against a shortfall of 16,237 ST of chromium metal.
(6) Hold 337,715 SDT of nonspecification grade metallurgical ore against 337,715 SDT of chemical grade ore shortfall.

d. **Columbium Group:**

(1) Hold 930,911 pounds Cb as Fe Cb against 1,095,189 pounds Cb as concentrates.
(2) Hold 44,851 lb Cb as Cb metal against 52,766 lb Cb as concentrates.

e. **Manganese, Dioxide, Battery Grade Group:**

Hold 21,989 SDT of manganese, battery grade, natural ore against a shortfall of 21,989 SDT of manganese, battery grade, synthetic dioxide.

f. **Manganese Group, Chemical and Metallurgical Grades:** Metallurgical grade ore goal is 2,700,000 SDT; inventory 2,409,160 SDT; shortfall 290,840 SDT of stockpile grade ore.

(1) Hold 14,172 ST of Mn metal against 35,430 SDT of metallurgical ore.
(2) Hold 23,574 ST of Fe Mn Si against 42,433 SDT of metallurgical ore.
(3) Hold 28,920 ST of Fe Mn medium carbon against 57,840 SDT of metallurgical ore.
(4) Hold 77,569 ST of Fe Mn high carbon against 155,138 SDT of metallurgical ore.
(5) Hold remaining 83,409 ST of Fe Mn high carbon against reduction of ore value in desired inventory mix.

g. **Opium:** Hold 31,795 AMA lb of opium gum against 31,795 AMA lb of opium salt goal.

h. **Ricinoleic/Sebacic Acid Products:** Sebacic acid inventory is credited toward goal at the rate of 2.5 to 1.

i. **Tantalum Group:**

(1) Hold 201,133 lb Ta as Ta metal against 237,337 lb Ta as concentrates.
(2) Hold 28,688 lb Ta as Ta C against 33,852 lb Ta as concentrates.

j. **Tungsten Group:**

(1) WC powder goal is 2,000,000 lb W; stockpile grade inventory 1,921,167 lb W; shortfall 78,833 lb W. Hold 111,775 lb W as nonspecification grade WC to offset 78,243 lb W as WC specification grade (assume 70% recovery of usable W).

(2) W metal powder goal is 1,600,000 lb W; inventory stockpile grade 1,566,964 lb W; shortfall 33,036 lb W. Nonstockpile grade W metal powder inventory is 331,947 lb W. Assume 70% recovery as usable material, then 331,947 x .70 = 232,363 lb W. Hold 47,194 lb W as nonspecification grade powder to offset shortfall of 33,036 stockpile grade W powder.

(3) Hold balance of nonstockpile grade W powder 232,363 - 33,036 = 199,327 lb W as powder against 234,209 lb W as concentrate.

(4) Hold 840,752 lbs W as Fe W stockpile grade against 987.884 lb W as concentrate. Hold 1,184,609 lb W nonstockpile grade Fe W at 70 percent recoverable against 974,341 lb W concentrate.

APPENDIX 2

CALCULATION PROCEDURE FOR FAMILY GROUPINGS OF MATERIALS

The following example is designed to help the reader perform and understand the conversions and calculations used in preparing summary lines for basic family groupings. The purpose in using basic units for each of the families or groups of materials is to place the content of the primary material into a common denominator for easier comparison.

In time of emergency, there would be a need for a mix of various forms of each metal element. The stockpile goal for a metal is a mix of products at various stages of upgrading. The goal is calculated by examining expected wartime requirements, availability, and domestic capacity to produce each of the upgraded forms.

There is a different factor for converting each of the forms into a common denominator, usually the basic metal equivalent. The conversion factors are different because process conversion losses vary. The calculations and conversions used for the aluminum oxide abrasive grain group are shown as an example.

The aluminum oxide abrasive grain group has a surplus of aluminum oxide abrasive grain and of aluminum oxide fused crude but has a deficit of bauxite abrasive grade. Both aluminum oxide abrasive grain and fused crude are used to offset the shortfall in the abrasive grade bauxite but in different proportions for each because of upgrading processing losses.

PROCEDURE

1. Both aluminum oxide abrasive grain and aluminum oxide fused crude are upgraded products of abrasive grain bauxite. In converting each of these materials from bauxite a process loss was incurred. Therefore, to use them as offsets against the deficit in abrasive grade bauxite, conversion factors greater than 1.0 are used to convert them back to equivalent amounts of bauxite.

2. The available surplus of aluminum oxide abrasive grain is 50,904 ST. To calculate the abrasive grade bauxite equivalent in LCT, multiply by the conversion factor: 1.55999 times 50,904 equals 79,410 LCT of bauxite equivalent.

3. The available surplus aluminum oxide fused crude is 249,867 ST. To convert this into bauxite equivalent in LCT, multiply by the conversion factor: 1.200 times 249,867 equals 299,840 LCT bauxite equivalent.

4. Add the two bauxite equivalents to find the total offset; 79,410 plus 299,840 equalt 379,250 LCT.

5. The bauxite abrasive grade goal is 1,000,000 LCT; therefore subtract the offset of 379,250 LCT leaving a deficit of 620,750 LCT.

BEST COPY AVAILABLE

Factors Used for Converting Materials Into Family Groups

Materials	Unit	Multiple Factor	Basic Family Unit
Alumina	ST	0.518	Metal Equivalent, Aluminum
Aluminum Oxide, Fused, Crude	ST	0.833	Aluminum Oxide, Abrasive Grain
Bauxite, Abrasive Grade	LCT	0.641	Aluminum Oxide, Abrasive Grain S.T.
Bauxite, Metal Grade, Jamaica Type	ST	0.231	Metal Equivalent, Aluminum
Bauxite, Metal Grade, Surinam Type	ST	0.264	Metal Equivalent, Aluminum
Beryl Ore (11% BeO)	ST	0.028	Metal Equivalent, Beryllium
Beryllium Copper Master Alloy (4% Be)	ST	0.04	Metal Equivalent, Beryllium
Chromite, Chemical Grade Ore	ST	0.286	Metal Equivalent, Chromium
Chromite, Metallurgical Grade Ore	ST	0.286	Metal Equivalent, Chromium
Chromium, Ferro, High Carbon	ST	0.714	Metal Equivalent, Chromium
Chromium, Ferro, Low Carbon	ST	0.714	Metal Equivalent, Chromium
Chromium, Ferro, Silicon	ST	0.429	Metal Equivalent, Chromium
Columbium, Concentrates	LB	0.850	Metal Equivalent, Columbium
Diamond Dies, Small	PC	0.50	Carat
Manganese, Dioxide, Battery Grade	SDT	1.000	Manganese, Dioxide, Battery Grade, Synthetic
Manganese, Chemical Grade	ST	0.400	Metal Equivalent, Manganese
Manganese, Metallurgical Grade	ST	0.400	Metal Equivalent, Manganese
Manganese, Ferro, High Carbon	ST	0.800	Metal Equivalent, Manganese
Manganese, Ferro, Medium Carbon	ST	0.800	Metal Equivalent, Manganese
Manganese, Ferro, Silicon	ST	0.720	Metal Equivalent, Manganese
Opium Gum	AMA LB	1.000	Opium Salts
Tantalum Minerals	LB	0.85	Metal Equivalent, Tantalum
Tungsten Ores and Concentrates	LB	0.851	Metal Equivalent, Tungsten

BEST COPY AVAILABLE

APPENDIX 3

STRATEGIC AND CRITICAL MATERIALS STOCK PILING ACT

(P.L. 96-41, 50 U.S.C. 98 *et seq.*)

SEC. 1. This Act may be cited as the 'Strategic and Critical Materials Stock Piling Act'.

FINDINGS AND PURPOSE

SEC. 2. (a) The Congress finds that the natural resources of the United States in certain strategic and critical materials are deficient or insufficiently developed to supply the military, industrial, and essential civilian needs of the United States for national defense.

(b) It is the purpose of this Act to provide for the acquisition and retention of stocks of certain strategic and critical materials and to encourage the conservation and development of sources of such materials within the United States and thereby to decrease and to preclude, when possible, a dangerous and costly dependence by the United States upon foreign sources for supplies of such materials in times of national emergency.

MATERIALS TO BE ACQUIRED: PRESIDENTIAL AUTHORITY AND GUIDELINES

SEC. 3. (a) The President shall determine from time to time (1) which materials are strategic and critical materials for the purposes of this Act, and (2) the quality and quantity of each such material to be acquired for the purposes of this Act and the form in which each such material shall be acquired and stored. Such materials when acquired, together with the other materials described in section 4 of this Act, shall constitute and be collectively known as the National Defense Stockpile (hereinafter in this Act referred to as the 'stockpile').

(b) The President shall make the determinations required to be made under subsection (a) on the basis of the following principles:

(1) The purpose of the stockpile is to serve the interest of national defense only and is not to be used for economic or budgetary purposes.

(2) The quantities of the materials stockpiled should be sufficient to sustain the United States for a period of not less than three years in the event of a national emergency.

(c) The quantity of any material to be stockpiled under this Act, as determined under subsection (a), may not be revised unless the Committees on Armed Services of the Senate and House of Representatives are notified in writing of the proposed revision and the reasons for such revision at least 30 days before the effective date of such revision.

MATERIALS CONSTITUTING THE NATIONAL DEFENSE STOCKPILE

SEC. 4. (a) The stockpile consists of the following materials:

(1) Materials acquired under this Act and contained in the national stockpile on the day before the date of the enactment of the Strategic and Critical Materials Stock Piling Revision Act of 1979.

(2) Materials acquired under this Act on or after the date of the enactment of the Strategic and Critical Materials Stock Piling Revision Act of 1979.

(3) Materials in the supplemental stockpile established by section 104(b) of the Agricultural Trade Development and Assistance Act of 1954 (as in effect from September 21, 1959, through December 31, 1966) on the day before the date of the enactment of the Strategic and Critical Materials Stock Piling Revision Act of 1979.

(4) Materials acquired by the United States under the provisions of section 303 of the Defense Production Act of 1950 (50 U.S.C. App. 2093) and transferred to the stockpile by the President pursuant to subsection (f) of such section.

(5) Materials transferred to the United States under section 663 of the Foreign Assistance Act of 1961 (22 U.S.C. 2423) that have been determined to be strategic and critical materials for the purposes of this Act and that are allocated by the President under subsection (b) of such section for stockpiling in the stockpile.

BEST COPY AVAILABLE

(6) Materials acquired by the Commodity Credit Corporation and transferred to the stockpile under section 4(h) of the Commodity Credit Corporation Charter Act (15 U.S.C. 714b(h)).

(7) Materials acquired by the Commodity Credit Corporation under paragraph (2) of section 103(a) of the Act entitled 'An Act to provide for greater stability in agriculture; to augment the marketing and disposal of agricultural products; and for other purposes', approved August 28, 1954 (7 U.S.C. 1743(a)), and transferred to the stockpile under the third sentence of such section.

(8) Materials transferred to the stockpile by the President under paragraph (4) of section 103(a) of such Act of August 28, 1954.

(9) Materials transferred to the stockpile under subsection (b).

(b) Notwithstanding any other provision of law, any material that (1) is under the control of any department or agency of the United States, (2) is determined by the head of such department or agency to be excess to its needs and responsibilities, and (3) is required for the stockpile shall be transferred to the stockpile. Any such transfer shall be made without reimbursement to such department or agency, but all costs required to effect such transfer shall be paid or reimbursed from funds appropriated to carry out this Act.

AUTHORITY FOR STOCKPILE OPERATIONS

SEC. 5. (a) (1) Except for acquisitions made under the authority of paragraph (3) or (4) of section 6(a), no funds may be obligated or appropriated for acquisition of any material under this Act unless funds for such acquisition have been authorized by law. Funds appropriated for such acquisition (and for transportation and other incidental expenses related to such acquisition) shall remain available until expended, unless otherwise provided in appropriation Acts.

(2) If for any fiscal year the President proposes certain stockpile transactions in the annual materials plan submitted to Congress for that year under section 11(b) and after that plan is submitted the President proposes (or Congress requires) a significant change in any such transaction, or a significant transaction not included in such plan, no amount may be obligated or expended for such transaction during such year until the President has submitted a full statement of the proposed transaction to the appropriate committees of Congress and a period of 30 days has passed from the date of the receipt of such statement by such committees or until each such committee, before the expiration of such period, notifies the President that it has no objection to the proposed transaction. In computing any 30-day period for the purpose of the preceding sentence, there shall be excluded any day on which either House of Congress is not in session because of an adjournment of more than three days to a day certain.

(b) Except for disposals made under the authority of paragraph (4) or (5) of section 6(a) or under section 7(a), no disposal may be made from the stockpile (1) unless such disposal, including the quantity of the material to be disposed of, has been specifically authorized by law, or (2) if the disposal would result in there being a balance in the National Defense Stockpile Transaction Fund in excess of $1,000,000,000 or, in the case of a disposal to be made after September 30, 1983, if the disposal would result in there being a balance in the fund in excess of $500,000,000.

(c) There is authorized to be appropriated such sums as may be necessary to provide for the transportation, processing, refining, storage, security, maintenance, rotation, and disposal of materials contained in or acquired for the stockpile. Funds appropriated for such purposes shall remain available to carry out the purposes for which appropriated for a period of two fiscal years, if so provided in appropriation Acts.

STOCKPILE MANAGEMENT

SEC. 6. (a) The President shall—

(1) acquire the materials determined under section 3(a) to be strategic and critical materials;

(2) provide for the proper storage, security, and maintenance of materials in the stockpile;

(3) provide for the refining or processing of any material in the stockpile when necessary to convert such material into the form most suitable for storage and subsequent disposition;

BEST COPY AVAILABLE

(4) provide for the rotation of any material in the stockpile when necessary to prevent deterioration of such material by replacement of such material with an equivalent quantity of substantially the same material;

(5) subject to the notification required by subsection (d)(2), provide for the timely disposal of materials in the stockpile that (A) are excess to stockpile requirements, and (B) may cause a loss to the Government if allowed to deteriorate; and

(6) subject to the provisions of section 5(b), dispose of materials in the stockpile the disposal of which is specifically authorized by law.

(b) Except as provided in subsections (c) and (d), acquisition of strategic and critical materials under this Act shall be made in accordance with established Federal procurement practices, and, except as provided in subsections (c) and (d) and in section 7(a), disposal of materials from the stockpile shall be made by formal advertising or competitive negotiation procedures. To the maximum extent feasible—

(1) competitive procedures shall be used in the acquisition and disposal of such materials;

(2) efforts shall be made in the acquisition and disposal of such materials to avoid undue disruption of the usual markets of producers, processors, and consumers of such materials and to protect the United States against avoidable loss; and

(3) disposal of such materials shall be made for domestic consumption.

(c)(1) The President shall encourage the use of barter in the acquisition of strategic and critical materials for, and the disposal of materials from, the stockpile when acquisition or disposal by barter is authorized by law and is practical and in the best interest of the United States.

(2) Materials in the stockpile, the disposition of which is authorized by law, shall be available for transfer at fair market value as payment for expenses (including transportation and other incidental expenses) of acquisition of materials, or of refining, processing, or rotating materials, under this Act.

(3) To the extent otherwise authorized by law, property owned by the United States may be bartered for materials needed for the stockpile.

(d)(1) The President may waive the applicability of any provision of the first sentence of subsection (b) to any acquisition of material for, or disposal of material from, the stockpile. Whenever the President waives any such provision with respect to any such acquisition or disposal, or whenever the President determines that the application of paragraph (1), (2), or (3) of such subsection to a particular acquisition or disposal is not feasible, the President shall notify the Committees on Armed Services of the Senate and House of Representatives in writing of the proposed acquisition or disposal at least thirty days before any obligation of the United States is incurred in connection with such acquisition or disposal and shall include in such notification the reasons for not complying with any provision of such subsection.

(2) Materials in the stockpile may be disposed of under subsection (a)(5) only if the Committees on Armed Services of the Senate and House of Representatives are notified in writing of the proposed disposal at least thirty days before any obligation of the United States is incurred in connection with such disposal.

(e) The President may acquire leasehold interests in property, for periods not in excess of twenty years, for storage, security, and maintenance of materials in the stockpile.

SPECIAL DISPOSAL AUTHORITY OF THE PRESIDENT

SEC. 7. (a) Materials in the stockpile may be released for use, sale, or other disposition—

(1) on the order of the President, at any time the President determines the release of such materials is required for purposes of the national defense; and

(2) in time of war declared by the Congress or during a national emergency, on the order of any officer or employee of the United States designated by the President to have authority to issue disposal orders under this subsection, if such officer or employee determines that the release of such materials is required for purposes of the national defense.

(b) Any order issued under subsection (a) shall be promptly reported by the President, or by the officer or employee issuing such order, in writing, to the

BEST COPY AVAILABLE

Committees on Armed Services of the Senate and House of Representatives.

MATERIALS DEVELOPMENT AND RESEARCH

SEC. 8. (a)(1) The President shall make scientific, technologic, and economic investigations concerning the development, mining, preparation, treatment, and utilization of ores and other mineral substances that (A) are found in the United States, or in its territories or possessions, (B) are essential to the national defense, industrial, and essential civilian needs of the United States, and (C) are found in known domestic sources in inadequate quantities or grades.

(2) Such investigations shall be carried out in order to—

(A) determine and develop new domestic sources of supply of such ores and mineral substances;

(B) devise new methods for the treatment and utilization of lower grade reserves of such ores and mineral substances; and

(C) develop substitutes for such essential ores and mineral products.

(3) Investigations under paragraph (1) may be carried out on public lands and, with the consent of the owner, on privately owned lands for the purpose of exploring and determining the extent and quality of deposits of such minerals, the most suitable methods of mining and beneficiating such minerals, and the cost at which the minerals or metals may be produced.

(b) The President shall make scientific, technologic, and economic investigations of the feasibility of developing domestic sources of supplies of any agricultural material or for using agricultural commodities for the manufacture of any material determined pursuant to section 3(a) of this Act to be a strategic and critical material or substitutes therefor.

NATIONAL DEFENSE STOCKPILE TRANSACTION FUND

SEC. 9. (a) There is established in the Treasury of the United States a separate fund to be known as the National Defense Stockpile Transaction Fund (hereinafter in this section referred to as the 'fund').

(b)(1) All moneys received from the sale of materials in the stockpile under paragraphs (5) and (6) of section 6(a) shall be covered into the fund. Such moneys shall remain in the fund until appropriated.

(2) Moneys covered into the fund under paragraph (1) shall be available, when appropriated therefor, only for the acquisition of strategic and critical materials under section 6(a)(1) of this Act (and for transportation related to such acquisition).

(3) Moneys in the fund, when appropriated, shall remain available until expended, unless otherwise provided in appropriation Acts.

(c) All moneys received from the sale of materials being rotated under the provisions of section 6(a)(4) or disposed of under section 7(a) shall be covered into the fund and shall be available only for the acquisition of replacement materials.

ADVISORY COMMITTEES

SEC. 10. (a) The President may appoint advisory committees composed of individuals with expertise relating to materials in the stockpile or with expertise in stockpile management to advise the President with respect to the acquisition, transportation, processing, refining, storage, security, maintenance, rotation, and disposal of such materials under this Act.

(b) Each member of an advisory committee established under subsection (a) while serving on the business of the advisory committee away from such member's home or regular place of business shall be allowed travel expenses, including per diem in lieu of substance, as authorized by section 5703 of title 5, United States Code, for persons intermittently employed in the Government service.

REPORTS TO CONGRESS

SEC. 11.(a) The President shall submit to the Congress every six months a written report detailing operations under this Act. Each such report shall include—

(1) information with respect to foreign and domestic purchases of materials during the preceding 6-month period;

BEST COPY AVAILABLE

(2) information with respect to the acquisition and disposal of materials under this Act by barter, as provided for in section 6(c) of this Act, during such period;

(3) a statement and explanation of the financial status of the National Defense Stockpile Transaction Fund and the anticipated appropriations to be made from the fund during the next fiscal year; and

(4) such other pertinent information on the administration of this Act as will enable the Congress to evaluate the effectiveness of the program provided for under this Act and to determine the need for additional legislation.

(b) The President shall submit to the appropriate committees of the Congress each year with the Budget submitted to Congress pursuant to Section 201(a) of the Budget and Accounting Act, 1921 (31 U.S.C. 11(a)), for the next fiscal year a report containing an annual materials plan for the operation of the stockpile during such fiscal year and the succeeding four fiscal years. Each such report shall include details of planned expenditures for acquisition of strategic and critical materials during such period (including expenditures to be made from appropriations from the general fund of the Treasury) and of anticipated receipts from proposed disposals of stockpile materials during such period.

DEFINITIONS

SEC. 12. For the purposes of this Act:

(1) The term 'strategic and critical materials' means materials that (A) would be needed to supply the military, industrial, and essential civilian needs of the United States during a national emergency, and (B) are not found or produced in the United States in sufficient quantities to meet such need.

(2) The term 'national emergency' means a general declaration of emergency with respect to the national defense made by the President or by the Congress.

SEC. 13. Notwithstanding any other provision of law, on and after January 1, 1972, the President may not prohibit or regulate the importation into the United States of any material determined to be strategic and critical pursuant to the provisions of this Act, if such material is the product of any foreign country or area not listed as a Communist-dominated country or area in general headnote 3(d) of the Tariff Schedules of the United States (19 U.S.C. 1202), for so long as the importation into the United States of material of that kind which is the product of such Communist-dominated countries or areas is not prohibited by any provision of law.

GPO 909-465

BEST COPY AVAILABLE